

Quality of kitchens

How long should a kitchen lifespan be?

- Quality might mean the difference between a kitchen lasting for either 2 or 20 years.

Quality within a fitted kitchen can be identified in 2 seperated areas:

1. All the materials that are put into the kitchen.

- this includes the kitchen cupboard doors, the carcasses, the handles, hinges and any product that may aid the snug fit of the kitchen such as glues, silicon sealants and screws.

2. The way that the material are put together.

- kitchen fitters which either hired by the housing company or self-employed.



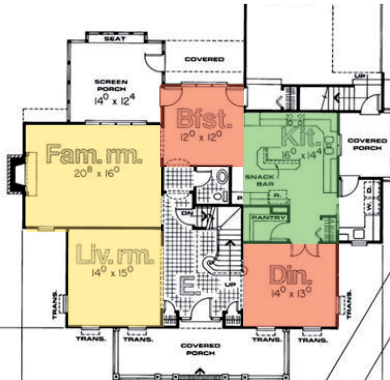
NextGen Research

Chapter 12: On Wet Spaces [ID]

Kitchen Spaces and Living Room How they changed over generations

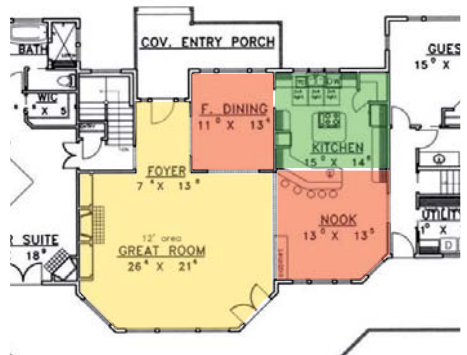
Keys:

- Kichen space*
- Living space*
- Dining space*



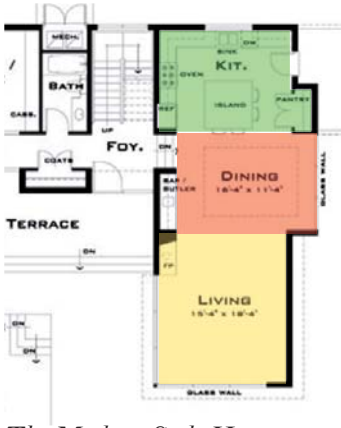
The Colonial Style House

- Separated kitchen from living rooms.
- The idea that women stay in the kitchen and men socialise with his colleges in living room
- Most of the rooms connect via the foyer
- Excessive use of space.



The Victorian Home House

- The living room is the centre of the house.
- Similar to the Colonial Style House as the kitchen separates from living room.
- Having living room connect to the entrance might be to portray the financial status of the owner.



The Modern Style House

- Kitchen connects to the living room via dining room.
- Starting to break in the gender role idea



The Open-Plan House

- Kitchen and dining room merge into one space and directly connect to living room.
- Effective use of space and there is more interaction within the household.

Keys:

- Kitchen space
- Living space
- Dining space



The Apartment (Eureka 3 Bedrooms Apartment)

- Kitchen, Dining room and Living room merged together and there is a direct connection to one another.
- Very effective use of space as the rise in population, the land become more expensive.

Different uses of kitchen in various cultures



Indian Kitchen - Mix use of space, kitchen and laundry. Seperated from dining room



African Kitchen - African in the rural area cook outside their house and use natural resources to store and heat up the food.



Thai Kitchen - Middle class to lower class in Thailand prefers to cook outside their house. The kitchen is completely seperated from other rooms in ther house.

Intergrated appliance and energy saving

Whirpool's Geen Kitchen Concept.

Whirpool's Green Kitchen "diverts" 60% of the water and heat generated from appliances to fuel other functions and appliances, rather than just tossing it aside. For example: the heat produced in the compressor coils from running the fridge -- the one appliance that cycles on and off, 24 hours a day -- is used to heat water for the dishwasher, rather than just wafting out into the kitchen. And speaking of the fridge, it uses a drawer fridge that saves energy by preventing cold air from slipping out every time you open the door.



Portable all in one appliances

Cirrus MVR- Portable Bathroom

By:Michael Trudgeon

Cirrus MVR is a re-locatable modular bathroom built around a central water recycling and purifying unit. The stainless steel module is equipped with a built-in bath, shower, toilet and hand basin. The design intention is to create a bathroom that provides all the services for contemporary bathing and ablution while using a fraction of the water that current bathroom fittings require

- Save space for bathroom area.
- Idea of prefab bathroom and fitting into the designated space.



Boffi Mini Kitchen

By: Joe Colombo

The Boffi Mini-Kitchens are fine representatives of the Total Living Units family, designed by Mr. Colombo for Paolo Boffi, who owned a kitchen manufacturing company. The Carrellone mini-kitchen was unveiled at the 13th Milan Triennale in 1964. This Boffi Mini-Kitchen contains everything you need in a kitchen - a stove, a refrigerator, a can opener, drawers for tableware, working surfaces and storage for cookbooks. This compact kitchen uses a single electrical plug. Sleek and space-saving design with full functionality from the Carrellone Boffi Mini-Kitchen.

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Chapter12: On Wet Spaces [ID]

All in One Box Concept

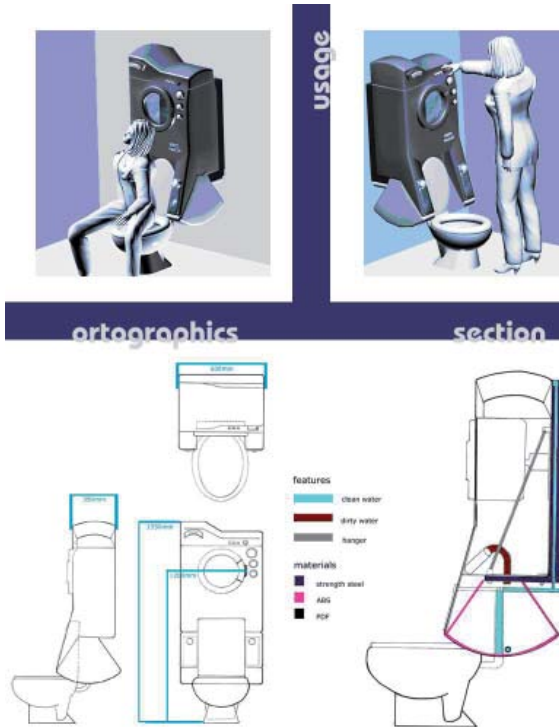
WoonBox - Toilet+Shower+Kitchen

By : Arthur Rottier and Peter Jongman KAW Architects

Woonbox is a house for 'temporary stay.' This magical piece provides the functions of residential shower, toilet and a kitchen in a neat and compact box-like structure. Woonbox is also mechanized and mobile. The architects envisage a cubical that has several compartments which open up to reveal different units. Designed to serve as temporary residence in places where permanent homes are difficult to locate, Woonbox can be set-up in spaces like offices and parks as makeshift measures. Woonbox would also come in handy for the poor and homeless as well as the class of populace that cannot afford large permanent establishments.

- The woonbox model could be apply to any indoor space and potentially save up the space of two rooms.
- The original concept of the woonbox is for temporary stay, but it could be develop further into space efficiency within the house.





Water Conservative and integrated appliance.

Washup: Laundry Machine + Toilet
(Conceptual Design)

WashUp is a conceptual design by Sevin Coskun integrating washing machine with toilette-flush. The machine is fixed above the toilet and is designed in such a way that loading of clothes is done with ease without having to bend or crouch. A special interface including three semi-sphere control units and two flushing buttons is designed for a practical usage of the product. The drained water from washing machine is reused to flush the toilet thereby saving water.

The conceptual design, Washup could initially allow opportunities such as:

- save spaces from the placing two machines in different places.
- reuse the grey water that comes from laundry machine directly.
- save the energy from pumping water back to the toilet to use the grey water.
- resolve the problem of operating front loading washing machine by not having to bend or crouch.

The problems with the Washup:

- difficult to relocate the machine.
- people don't do their laundry as often as go to toilet.



Movable Kitchen

Round Cupboard Kitchen

By: Cheng He, Liu Quang Kui and Zhou Dong

Each element of the kitchen is designed to allow objects to come to the user, instead of having the user moving to reach them. In conclusion this concept can save a lot of time and space, because everything is very compact and handy.

- Creating the new concept of happy kitchen: Sharing the joy with relatives and friends face-to-face.
- Integrative structures with operational table-board, flume and kitchen, cupboard distribute icebox, disinfectant and oven symmetrically, other borders are closets.
- Cupboard adopts double-deck rotator structure, can rotate 180° respectively, the three major work center of washing, mixing and cooking can rotate in the front of the operator, let “zero” distance in each workflow; And can lift in certain distance in order to be suitable for the different operator.

Movable Kitchen - Effective use of space

Grandma's Kitchen Hides a Secret

It designed to invoke the coziness of nanna's best room, Grandma's Kitchen is the ultimate example of space efficiency. The unit transforms into a full kitchen complete with a sink, oven, fridge and cooktop to prepare your meals. Then thru a series of slides and latches transforms into a dining area for 4. The great thing about this design is if you don't feel like cleaning up after a big meal, just push everything back in and close up shop. Out of sight, out of mind – that is until the following morning.

Grandma's Kitchen design's advantages:

- Despite the water pipe, this kitchen model can be placed anywhere in the house.
- It acts as a storage and decoration.
- Save a lot of spaces as occupants do not use kitchen all the time, the space can be used for other purposes.



Movable Kitchen - Effective use of space

Lift - Movable Kitchen Storage

Lift is a new kitchen concept that fulfills our daily needs for modular and dynamic systems. Apartments and houses are becoming smaller therefore we need to design products that are able to offer a lot and at the same time be

compact. Our design features different sliding (up and down) modules containing all the necessary tools a kitchen must have. While you're not working or cooking you can close the sliding units together and create different kinds of sideboards. Lift can be well positioned in a one bedroom apartment, in a studio, in a loft or in a open space kitchen / living room area.

The potentials of lift to NextGen Project:

- An idea of movable space and storage.
- The movable idea could be applied for something else in the house and not just kitchen storage such as living room shelf or building façade.
- Allowing the individuals to interact with the place they live.



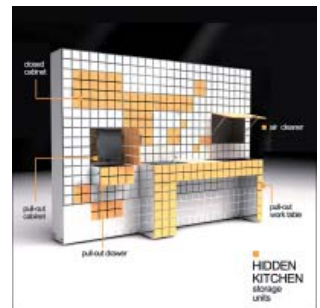
Movable Kitchen - Effective use of space

Hidden Kitchen Storage

By Juanjuan He + Liyan Zhang from usa

Hidden Kitchen Designed to improve the mentality of a kitchen both physically and mentally. Every function a traditional kitchen has is hidden behind the kitchen wall allowing easier clear up of the kitchen. The form of hiding saves the room of the house, which exhibits a sense of freedom and comfort. Psychologically, hiding state conveys satisfaction to some extent for only the kitchen host to know exactly where all the things are. The tile colors can be changed and arranged to fit your personal style.

- Hidden kitchen model allows the kitchen space to disappear into the wall and give more space for the living room or circulation.
- The design of the kitchen could be flexible.



Materials Studies

Kebony

- High performance wood modified by process called 'Kebonization'.
- Environmentally friendly procedure that enhances the properties of wood using biowaste from sugar industry
- Kebonization strengthens the cellular walls of wood, increasing density, making the product stiffer and significantly harder than untreated wood.
- Contains no chemicals that can be released into the environment.
- Kebony exhibits good durability and long life spans in harsh climates, and there is no need for paint or sealing.
- The increased resistance protects against decay, fungi, insects and other microorganisms.
- Required maintenance is limited to normal cleaning.
- Potentially can be used for exterior finish, structure, flooring or interior furniture.



Ductal

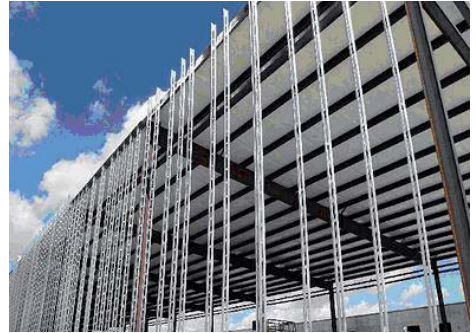
- Ductal is a new material technology that offers ductility, strength, and durability while providing mouldable products with a quality surface.
- It is possible to create thinner sections, longer spans, and higher structures, which are lighter, more graceful and innovative in geometry, and have superior durability and impermeability against corrosion, abrasion, and impact with Ductal.
- Opportunities to improve many existing products and to manufacture new lines of products that will compete with stainless steel, cast iron, ceramics, and others.
- Can eliminate passive reinforcing steel and experience reduced global construction costs, formwork, labour, and maintenance, resulting in benefits such as improved construction safety, speed of construction, and extended life.



Tri-chord steel

The Tri-Chord Steel System were designed to minimize thermal bridging, and contain 66 to 68 % post consumer recycled content from wrecked auto mobiles and other sources, and has proved to be an environmentally superior choice to timber studs.

- Tri-Chord studs have the highest thermal, seismic, acoustic, and fire ratings for steel framing and will meet the thermal transference of wood.



Durra

Durra Building Systems manufactures engineered acoustic wall, roof, and ceiling systems for venues such as theatres, airports, convention centers, and other spaces that have high acoustic demands.

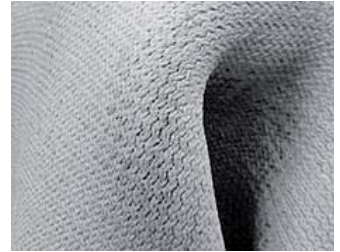
- Made from wheat straw and recycled paper.
- Excellent acoustic and thermal insulating properties, proven durability, and high impact and fire resistance. Ideal for wall and ceiling.



Concrete Cloth

Concrete Cloth is a flexible cement impregnated fabric that hardens when hydrated to form a thin durable water and fire proof concrete layer. The material is a mixture of Concrete blend, synthetic fibres and it has a PVC backing.

- Suitable for Interior / exterior furniture design, curved awnings, 3D wall tiles, building cladding, roofing, landscaping.



Faswall

Faswall forms are used for building insulated reinforced concrete structures for both residential and commercial construction.

- Made from recycled wood chip-based cement form provides a four-hour fire rating.
- The forms are designed to breathe, they prevent condensation build-up and mold growth. They are also termite proof.
- Faswall forms also provide significant tornado, hurricane, and earthquake resistance.

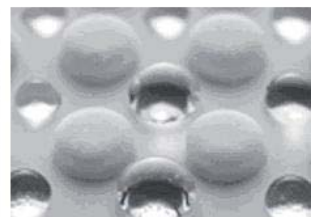
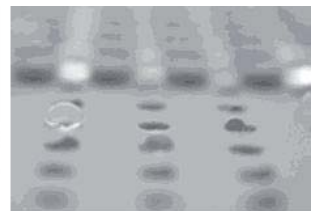
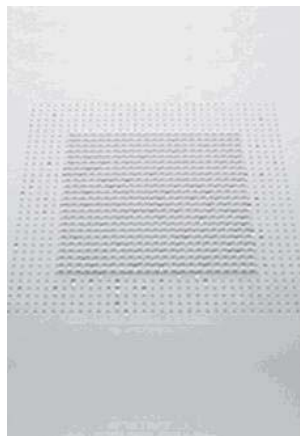
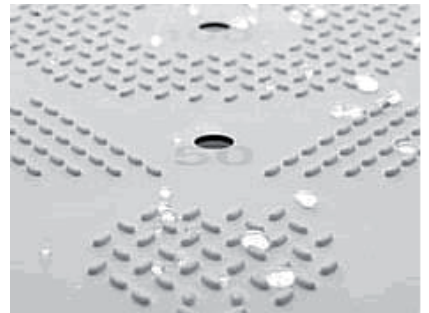
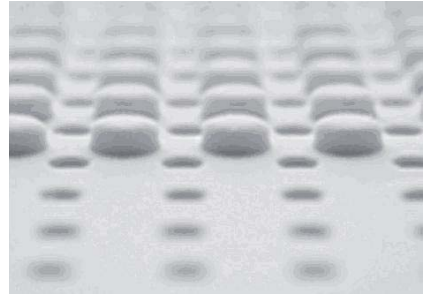


Humidifier

By: Kenya Hara

When water droplets fall on lotus leaves, they bead up into balls. Dubbed the “lotus effect,” this phenomenon occurs because the infinitesimal hairs coating the surface of the leaves repel water.

Kenya Hara’s zero-energy humidifier consists of water resisting paper which make droplets evaporating from the paper. A coating of hydrophobic aerosol makes the droplets bead up into balls. The surface of the coating is similar to the surface of the lotus leaf, which has a specific texture that causes the water into round droplets. These drops evaporate more quickly than spread water, therefor making the humidifier effective without heating.



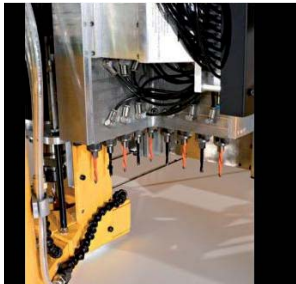
CNC Technology

What is CNC?

CNC stands for Computer Numerical Control, and refers specifically to a computer “controller” that reads G-code instructions and drives the machine tool, a powered mechanical device typically used to fabricate metal components by the selective removal of metal. CNC does numerically directed interpolation of a cutting tool in the work envelope of a machine.

Aluminium CNC Routers

ART (Advance Robotic Technology) in Australia has been manufacturing CNC cutting machine since 1977. ART Aluminium Routers have been specifically designed for processing aluminium sheet and plate up to 20 metres in length. This range offers rigid cutting with high feed rates, inkjet part numbering and alignment marking, in-built swarf transfer system and high powered liquid cooled spindles. ART Aluminium Routers reduce production time and material wastage.



Rapid Prototype Technology

3 Dimensional Printing Technology

Originally developed at the Massachusetts Institute of Technology (MIT) in 1993. It creates 3D physical prototypes by solidifying layers of deposited powder using a liquid binder. By definition 3DP is an extremely versatile and rapid process accommodating geometry of varying complexity in hundreds of different applications, and supporting many types of materials. This allows the low cost of early concept production models and product prototypes.

Large Scale 3d Printer

The use of 3 d printer could potentially be an alternative way in building industry. Shiro Studio architect and D shape created the 3 by 3 by 3 meters tall prototype of the Radiolaria Pavilion



- It works like any powder-based RP system, just on an incredibly large scale.
- Any excess sand acts to support the shapes while they're being fabricated and can be re-used for other models.
- The resulting artificial stone has some of the same characteristics as Portland cement.
- It also the first step on the road to actual rapid-construction of real full-scale buildings, there's no particular reason you couldn't scale up the technology.

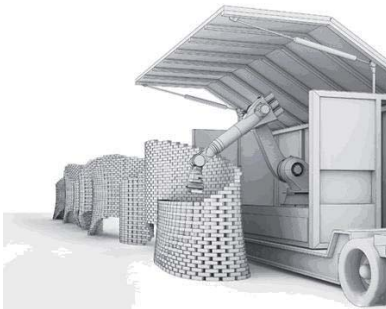
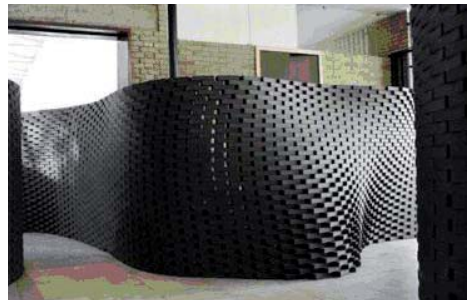
Brick Laying Robot

The Structure

By: Fabio Gramazio & Matthias Kohler

Located on Pike Street, the robot, R-O-B, will work for up to four weeks—in full view of the public—to construct a brick wall, a highly sculptural response to the specific identity of the site. The same robot unit recently built the award-winning installation, Structural Oscillations, at the 2008 architectural biennial in Venice. More than seven thousand bricks aggregate to form an infinite loop that weaves along the pedestrian island. In changing rhythms the loop lifts off the ground and intersects itself at its peaks.

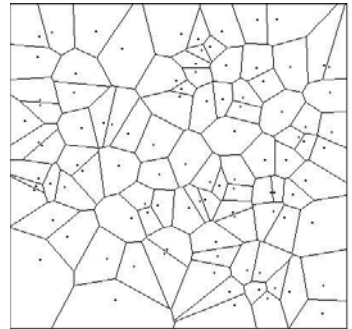
- The project was built by industrial robots typically used to assemble automobiles and perform other high-precision tasks.
- The accuracy, strength and speed of these robots allow them to fabricate architectural forms of unprecedented complexity and intricacy.
- The intricate, minute adjustments required by the undulating brick-pattern would be far to time-consuming and expensive, by hand.



Monocoque

Monocoque stands for a construction technique that supports structural load using an object's external skin. This is as opposed to using an internal framework (or spaceframe) that is then covered with a non-load-bearing skin.

Monocoque's structural skin is generated using a Voronoi pattern, the density of which corresponds to simulated loading conditions.



PolyJet Metrix Technology

Multi-Materials 3D printing

PolyJet Matrix Technology, a new direction in 3D printing, is the first technology that enables simultaneous jetting of different types of model materials.

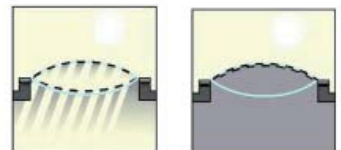
- Enables the combination of black and white rigid materials, creating a wide range of gray-scales suitable for consumer electronics and other applications.



'Performative' architecture_ Media-TIC, Barcelona, Spain

The 'performative' elements in the Media-TIC building are found in two of the four façades, which are made of the eco-efficient material ethylene tetrafluoroethylene (ETFE) cladding. Protection from the outside heat will be achieved using what's known as the 'diaphragm' configuration of ETFE cladding, whereby three layers of the plastic are fixed within the triangular frame and inflated like a pillow. The resulting bubble contains up to three air chambers that together create a shade-effect and provide thermal insulation for the building.

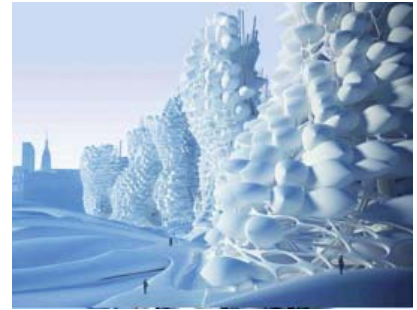
- ETFE skin allows light to filter through but shades people inside from direct sunlight reducing the UV rays by 85. The skin is also "anti-adherent" which means little need for cleaning the exterior.
- ETFE cladding will also be used for the south-west-facing façade, which will absorb six hours of sunlight daily, resulting in a 20% energy-saving.



Diagrams of the way the ETFE Diaphragm works

Spiralling Skyscraper Pod City For a Future London By Chimera' design team

These spiralling skyscrapers are modelled after the complex ecosystems created by the mangrove tree. Dubbed Mangal City, the project is an “urban ecological system” composed of modular pod capsules that shift to adapt to environmental and contextual conditions, and modelled on the interaction of natural ecosystems, a beautiful example of biomimicry.



Unitised Building System

A modern advanced version of ‘off-site-building’ is the UB™ System, a new construction system – an Australian invention developed over many years by Nonda Katsalidis of Fender Katsalidis Architects (Aust) Pty Ltd, which utilising a parallel on- and off-site construction programme which aims to reduce construction time by more than 6 months from a conventional build.

Ownership is said to be the key building block in the development of the capitalist socio-economic system that we live in, we are all conditioned to want to own to the point of selfishness. Many say it is time we look at co-housing, and economic and environmental pressures and forcing us to look more seriously into such ideas.

Co/shared-housing community

Cohousing residents are consciously committed to living as a community. The physical design encourages both social contact and individual space. Private homes contain all the features of conventional homes, but residents also have access to extensive common facilities such as open space, courtyards, a playground and a common house.



Co-housing broken down:

1. Participatory process.

2. Neighborhood design. The physical layout and orientation of the buildings

3. Common facilities. Common facilities are designed for daily use, are an integral part of the community

4. Resident management.

5. Non-hierarchical structure and decision-making. Leadership roles naturally exist in cohousing communities, however no one person has authority over others.

6. No shared community economy.

The community is not a source of income for its members. Occasionally, a cohousing community will pay one of its residents to do a specific task.



Gone are the days where every family (and the environment) can afford to own/build a 'McMansion'.

McMansion: Australia (and America's) obsession with the big double-storey cube, built in weeks and with little individuality; the 'Australian dream' on steroids.

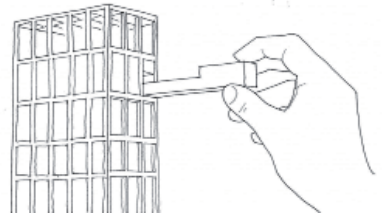
Case Studies

Unite d'Habitation (1947-52)

By:Le Corbusier

The 12-story apartment block for 1600 people. Built to alleviate a severe postwar housing shortage. It designed structurally simple, like 'bottles in a wine rack'. The configurations provided to accommodate single persons and families as large as 10. This project:

- Heavily drew on the Soviet Communal housing project, the Narkomfin Building
- A genuine mixed-use with amenities for modern living. A 'Machine for Living' – a machine for an entire, self-contained urban community
- An experiment resulting in a model development for high-density, industrial, urban society; a rich social lifestyle.
- Included a grocery store, bakery and various other shops.

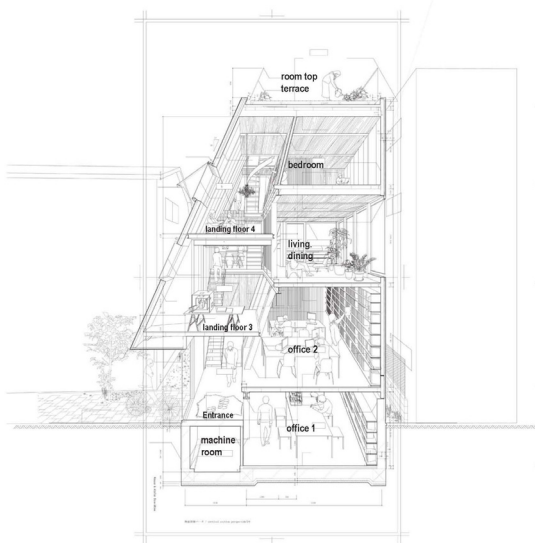


Atelier & House
Shinjuku, Tokyo
By Bow wow

With the centre for university studies, the architects would have had 3 different workplaces, situation which was becoming difficult to manage.

The house has a little separation between workplace and dwelling. The 2 lower levels were allocated to the work area and the 2 upper levels to the dwelling area, with a mezzanine in the room containing the staircase. The areas of the stair landings vary from 3 to 10 sqm, and the styles of the stairs also vary to give each space a different degree of privacy.

It is a place in the city centre that could double as home and workplace well.



Void Space/Hinged Space Housing

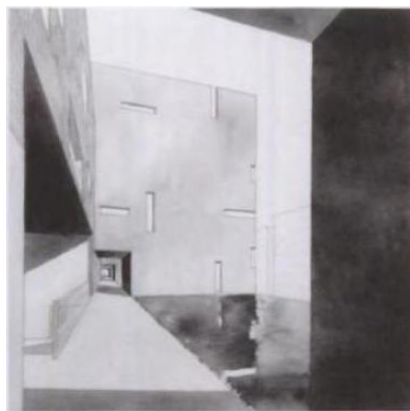
Fukuoka, Japan

By Steven Holl

From hinged space to the silence of void space. Four active north facing voids interlock with four quiet south facing voids to bring a sense of the sacred into domestic life. An experiential sense of passage through space is heightened in the three types of access that allow apartments to have exterior front doors. On the lower passage, views across the water court and through the north voids activate the walk spatially from side to side.

The 28 apartment interiors are conceptualized as “hinged space,” a modern interpretation of the multi-use concept of traditional Fusuma. Rooms can be added and removed as needed. Although the facades of each building is slightly different, the windows are somehow connected with the tenants.

It is a sustainable example of neighbourly sharing as it creates a feeling of sharing and owning the space when the tenants walk across the hinged buildings.

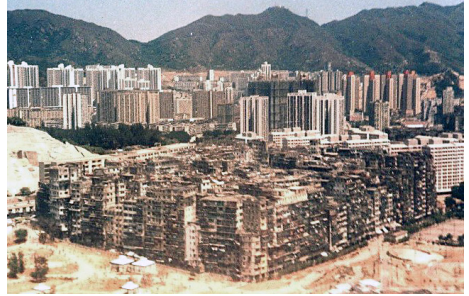


Kowloon Walled City

The Kowloon Walled City was located within Hong Kong. It was formerly a haven for criminals and lowlifes and it described as the “City of Darkness”. The buildings were so close to each other, and the height of the buildings that were constructed without formal building permits. The streets were illuminated by fluorescent lights 24 hours a day, as sunlight rarely reached the lower levels.

There was no governing body or police force; it was run by drug lords, organized crime syndicates, and unlicensed dentists that held practice in cramped apartment spaces. Thieves robbing people on the outskirts of the city and then immediately running into the Kowloon city centre in order to avoid capture.

It is not sustainability as people who lived in the Walled City rarely connected with the outside world. It is a bad example of social housing as it is dirty, unsecured, limited sunlight.



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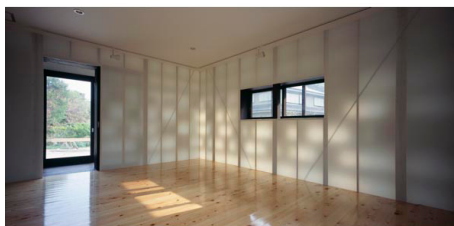
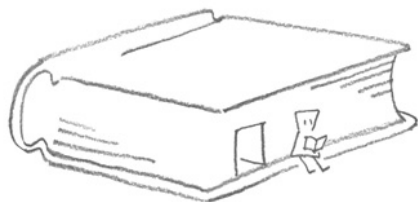
Chapter: 20 On ownership

Book House
Shikinejima, Tokyo
By Oki Sato/nendo

The client wished, in addition to building his personal residence, he want a library for children of the island, which lacks cultural facilities.

By using bookshelves to build up the exterior walls, this combination house and library protects the privacy of its inhabitants' living space while inviting visitors into the surrounding library. Semi-transparent, fibreglass-reinforced divides the interior and exterior spaces. It allows natural light to filter in between the bookshelves during the day, and letting the light leak out at night.

From the inside, one is aware of the presence of readers while in the evening a soft light can be seen glowing from the outside. This link between the interior and exterior, public and private worlds.



Suzuki, Akira; Terada, Mariko; Archilab Japan 2006 nested in the city, HYX, 2006

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Chapter: 20 On ownership modes

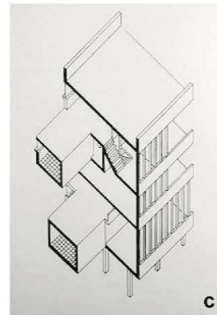
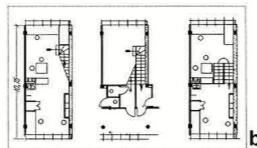
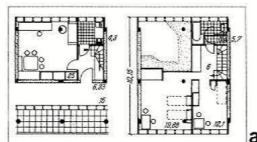
Narkomfin: Architecture for Collective Living

Year: 1928 - 1932

Architect: Moisei Ginzburg

The Narkomfin Building was designed for workers at the Commissariat of Finance (government workers). It was response to the social reality of an overcrowded city, but also the pressing problem of urban planning – how to avoid the isolation that comes with living in a city.

Narkomfin Building created a transitional, semi-communal apartment block to introduce the Soviet citizen to the communal way of life. It was to have brought communism into the heart of domestic life and prepare citizens for a fully communal life. The building offered communal facilities such as kitchens, crèches and laundries as most rooms were purely for sleep and study, with no living space/s or kitchens. It was also included meeting rooms to allow the people to discuss the onward march of socialism. The corridors to the flats were big, wide and open, to encourage people to see them as the village street, and stop and talk with their neighbours. Tenants encouraged into a more socialist way of life, also taking woman out of their traditional roles. The structure was to act as a ‘Social Condenser’ by including a library and gymnasium.



*Note the absence of kitchens

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Chapter: 20 On ownership modes

Habitat 67

Year: 1967

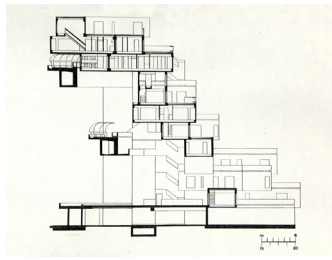
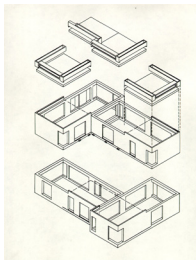
Architect: Moshe Safdie

An experiment to make a fundamentally better and cheaper housing for the masses, a '3d city in the sky' with at least some of the pleasures of a private home. Safdie, dissatisfied with suburbia which destroyed open space surrounding cities (sprawl) and cut off people's enjoyment of the amenities of city life. Also dissatisfied with the high-rise apartment block, which concentrated people on less land; too small for growing families and lacked both outdoor space and privacy. Safdie felt high-rise apartments were inadequate as family dwellings.

Habitat 67; an experiment, not just in housing, but in community life.' The units were arranged to provide fifteen different types of "houses". These varied from one-bedroom houses (600 sq. feet) to four-bedroom houses (1,700 sq. feet). Each had a private open garden space, 37 x 17 feet. Each man's roof was another man's garden. The arrangement of the units provided privacy and the variation in house layouts provides a sense of uniqueness. Giving each apartment an individuality that the occupant could form a relationship with, a sense of ownership one has with his/her home.

Failures:

- New method on off-site 'pod' construction became too expensive on such an experimental level.
- Site choice proved very quickly to be a mistake, situated some distance from Montreal's business and housing neighbourhoods.



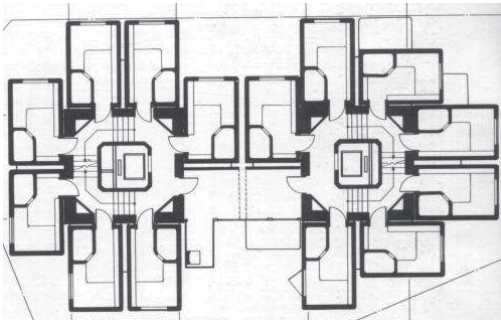
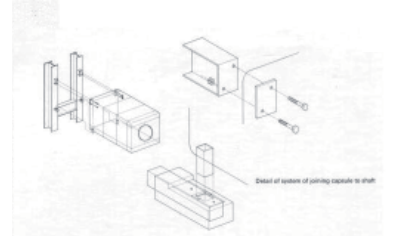
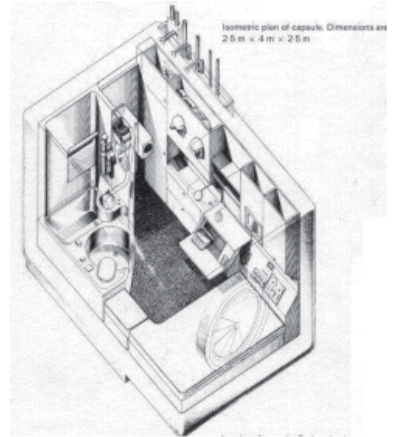
NextGen Research

Chapter20: On ownership

*Chapter10: On advance manufacturing
technology and material studies*

Nakagin Capsule Tower

Built from 1970 and opened in 1972 the Nakagin Capsule Tower was an innovative masterpiece by architect Kisho Kurokawa. Kurokawa developed the technology to install the 2.3m x 3.8m x 2.1m sized capsule units into a concrete core with only 4 high-tension bolts, making the units detachable and replaceable. The capsules were designed to accommodate the individual as either an apartment or studio space, and by connecting units they could also accommodate a family. Complete with appliances and furniture, from audio system to telephone, the capsule interior was pre-assembled in a factory off-site and then hoisted by crane and fastened to the concrete core shaft.



CNC

Aluminium Processing CNC Router

<http://www.advancedrobotic.com/index.php?p=aluminium-router>

Robot Brick layer

<http://www.fastcompany.com/welcome.html?destination=http://www.fastcompany.com/blog/cliff-kuang/design-innovation/robot-bricklayer-descends-new-york>

Large scale 3 dimensional printing technology

<http://www.dezeen.com/2009/06/22/radiolaria-pavilion-by-shiro-studio/>

Quality of Kitchen

How long should your kitchen life span be?

<http://www.kitchen-secrets.com/20.htm>

Kitchen space and living room - how they changed over generation?

<http://www.theplancollection.com/>

<http://www.eurekatorverapartment.com/>

Different uses of Kitchen in various cultures

India - <http://www.hindu.com/pp/2006/02/19/stories/2006021900190100.htm>

Africa - <http://www.zazzle.com/gifts?cg=103169472413565815>

Thailand - <http://www.homestayisaan.com/9801.html>

Materials

Humidifier

[http://www.materia.nl/575.0.html?&user_material\[material_uid\]=1278&cHash=c57cd0186d](http://www.materia.nl/575.0.html?&user_material[material_uid]=1278&cHash=c57cd0186d)

Concrete cloth

[http://www.materia.nl/575.0.html?&user_material\[material_uid\]=1771&search=1&cHash=a3a3b2abc8](http://www.materia.nl/575.0.html?&user_material[material_uid]=1771&search=1&cHash=a3a3b2abc8)

Kitchen

Lift- movable kitchen storage

<http://freshome.com/2009/07/23/space-saving-sliding-kitchen-cabinet-system/?cp=1>

Hidden Kitchen Storage

<http://www.yankodesign.com/2007/05/11/hidden-kitchen-by-june-he/>

Grandma's kitchen – effective use of space

<http://m.yankodesign.com/2007/10/08/grandmas-kitchen-hides-a-secret/>

Woonbox Toilet+Kitchen+Shower

<http://www.thedesignblog.org/entry/behold-woonbox-toilet-shower-and-kitchen-all-in-one/>

Washup: laundry machine + toilet

http://www.designer.com/design_news/washup-by-altera-design-studio.html

England_ affordabile sustainability:

<http://www.inhabitat.com/2010/03/12/prefab-friday-beautiful-green-roof-affordable-housing-uk/>

Barcelona 'an inflated building

<http://www.designbuild-network.com/projects/media-tic/>

<http://www.22barcelona.com/documentacio/pdfangles.pdf>

<http://www.inhabitat.com/2010/03/08/an-inflatable-building-in-barcelona-provides-a-new-kind-of-insulation/>

Melbourne_pixel building

<http://www.inhabitat.com/2010/03/11/crazy-pixel-building-to-be-australias-first-carbon-neutral-office-building/>

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co housing

http://www.cohousing.org/what_is_cohousing

a great resource of websites for antyhng co hosuing

http://www.habiter-autrement.org/04_co-housing/08_coh.htm

plug-in architecture

<http://www.architakes.com/?p=1441>

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floorplan: <http://www.djibnet.com/photo/unite/oscar-niemeyer-hansaviertel-housing-berlin-1956-1957-2601488005.html>

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Density: New Collective Housing: condensed edition

Javier Mozas, a+t publishing